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September 2003

HUB

DIGITAL

LIVING

Volume 15 Number 9

Sound advice

Buying an MP3 player
High-definition audio

What I did on my summer vacation

Sharing your digital photos online

Digital video contest: Win an iMac

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Maggie Johnston

Shifting ground

When HUB Digital Living was conceived, we recognized the shift that has been going on for some time — the march of computing technology out of the office and into almost every other area of our lives.

Though the personal computer remains a central role, it is no longer the only gateway to the digital world, and the workplace is no longer the predominant place in which we use digital content. Today, we play, create, communicate, and entertain with digital images, sounds, and video, and through digital channels.

Manufacturers that built their business and reputation on the personal computer have led this shift. Notable, recent examples include Dell, which officially dropped Computers from its name to reflect its move from PC maker to a supplier of a broader range of products, Gateway, which unveiled a wide range of consumer electronics, including plasma TVs and home theaters, and Hewlett-Packard, which delivered a full line of consumer products that promise to "simplify technology" and target the growing digital photography and entertainment markets. As well, retailers that specialized in computers in the past have been offering more digital devices — MP3 players, digital cameras, and PDA/phone combinations — that users may never have to connect to a PC to operate.

What does this mean for you? You can expect to see more and more products and services comprising your digital lifestyle. At HUB Digital Living, we'll help you get the most out of the digital technology you choose to use, offering you buying advice, product reviews, and a chronicle of the way people interact with their digital world.

Team HUB

I've used "we" a lot in this editorial because putting this has been a team effort. The public face of the magazine is its editor, Neel Gohil, who developed the concept for HUB and was Editor of Toronto



Neel Gohil

Computer, Sean Connolly, who helmed the Computer Paper's test lab, and who will continue to oversee our product reviews, Sharon Myers, who has been Assistant Editor of the Computer Paper and Editor of Vancouver Computer, and Jessica Malone, who becomes Editor of HUBonline.com after overseeing Canada's Computer.com. Behind the scenes are Art Director Steve Steiner, Graphic Designer Chris Brockley, and Marketing Manager Maria Novakova, who have put in many long hours and played a key role in getting this magazine off the ground.

The debut of HUB Digital Living also marks the departure of Canada Computer Paper Inc.'s Editorial Director David Daniels, who is retiring. Luckily for us, he thanks "retirement" in a letter of new projects and continuing to contribute to HUB. We'll miss seeing and talking to David on a daily basis, but look forward to including his enthusiastic take on digital technology with our readers for a long time to come.



Sharon Myers

David Daniels

Letter of the month contest

As an incentive to get you to give us your opinion, Fujitsu Canada is giving away a digital camera for the best letter of the month. The camera is in its new pocket size Fujifilm FinePix A205, a 2.0 megapixel model, with 2x Zoom, and 3.5-inch colour LCD monitor for reviewing shots and navigating the camera's menu. So, be creative and drop us a line at letters@hubcanada.com.



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First glance

A preview of new and notable digital devices. Look for full reviews in upcoming issues of **HUB: Digital Living**.



Part of Hewlett-Packard's (www.hp.ca) full lineup, the **ScanJet 4670** turns home scanning on its head—in more accurately on its side. The scanner, which has the width of a spiral-bound note book, can sit flat on a desk or on its side in a holder to save space. It has a transparent cover (allowing you to check the alignment of your document or photo—very clever), and a scanning area of 8.5x11-in. Larger items can be scanned in sections then "stitched" together using the included panorama software on the computer. Speaking of which, the ScanJet 4670 is compatible with Windows (98, Me, NT and 2000) and Mac OS (9.1 and OS 10.1.5 and higher) computers. It has a scanning resolution of 2,400 dots per inch and 48-bit colour. It retails for \$279.99.



Quit off your videotape! HP's new **DVD Video Writer dc3000** simplifies transferring video to DVD. According to HP, you can import your VCR or analogue video camera to the dc3000 and push Record, and your VHS (or Hi8, Digital 8, Mini DV, or Betamax) is saved to a DVD. For more creative types, it comes with video-editing software, so you can add titles, credits, soundtracks, and effects to your video before saving to disc. The dc3000 uses DVD-R or RW discs and also functions as a CD reader and writer, so it can be used to make and play audio discs, save digital photo collections, and back up document data. The dc3000 will be available in mid-September for \$499.

For more first-glance news, go to www.HUBnews.com.



In this issue we look at the 128-MB **Walkman WMF310+** (Page 20), a combination MP3 player/Voice recorder/answering key. At press time, its distributor Acec Group, announced the introduction of new **Walkman** players to the Canadian market. Among them, the **Walkman Answer**, which adds an FM receiver, downloadable games, and 256-MB of memory. The Answer is about double the width of the WMF310+ player. Despite its larger size, Acec says it can run for 24 hours on a single AA battery. Not bad for \$299.



The line between digital cameras, audio players, cell phones, and PDAs has become very blurry of late. As these devices get more features, they need more memory—and if it's faster and smaller, all the better. Having this in mind, memory maker, Sandisk Corp. (www.sandisk.com) has beefed up its Memory Stick line with the new **PRO 016** memory sticks, which are a third the size of standard Memory Sticks. The **PRO Blue** sticks are for multimedia devices, such as audio players, digital and still cameras, and new multi-tasking PDAs, including the Sony Ericsson P900. They use MegaGate technology, which means faster data transfer. Higher capacity, and built-in security, expected to be available in September, the 256-MB and 512-MB cards have suggested prices of US\$129.99 and US\$229.99, respectively.



Just in time for the shorter days of fall, **Nokia** (www.nokia.ca) has added the **Nokia 5110**, which has a built-in flash light, as its sibling of cell phones. Despite its slenderness for us to see to its daylight-deprived northerners, the Web-enabled phone was actually designed for the active outdoorsy set, with a built-in thermometer, calorie counter, integrated FM radio, and speakerphone. It's also more dust and bump resistant than standard phones, according to Nokia. As with most cell phones, its cost varies depending on the service plan you sign up for. That said, Nokia is selling the 5110 for \$250 (in conjunction with an activation rebate and promotional discount).

Notes on prepping photos

Have you ever clicked on a photo, only to be treated to a magnified view of the top left corner, from which you had to scroll across and down to see the subject? Or worse, then watching a movie from three metres in front of a theatre screen — you don't really grasp the composition of the picture. If you suspect the images you are posting will be viewed more than printed, you'll probably want to make their own.

If your image editing software has a look for comments such as resize, resample or crop. While you generally need at least 200 dots per inch to produce a good print, 80 dots looks perfectly good on screen and the pictures will load more quickly. Check the dimensions too — I found that setting the size to 540x460 pixels worked well for viewing on a 15-inch monitor. Larger pictures tend to spill off the screen. Reduce your file size and make sure you get more pictures in your storage space.

The JPEG picture format is the most common; displays well in Web browsers and compatible with virtually all image editing software applications. It's also compressed, so it reduces file size. There is some loss in image quality compared to uncompressed formats, but it will not be noticeable to most people printing snapshots.

In converting the sizes of formats from the pictures imported from your camera or scanner to save to the original, you can go back to them if you need them. Once you've reduced the size of a picture, you then can't increase it again without sharply reducing its quality — the less you've blown away to reduce the file size, the more you're left with. It's gone for good. Rename the new files and store them in a separate folder.

What I did on my summer vacation

HOW TO: Share your digital photos online with friends and family in faraway places

One of the best things about taking photos is sharing them, whether it's to remember a special event or to enter mass your children when they finally bring a special friend home for dinner. This is where digital photography shines — anxious grandparents can now have bragging pictures of a newborn grandchild within hours of birth, even if they live halfway around the world.

But sharing photos over the Internet isn't problem free. As picture resolution increases on digital cameras, file sizes get bigger as well, becoming cumbersome to handle as email attachments. And, honestly, while I'm sure all your friends would love to look at the 5D photos you took on your Caribbean vacation, they might not want their own copies to download over their dial-up connections.

So, it's best to learn a few tricks to spruce up your digital photo etiquette. There are plenty of websites online for sharing your photos that make things easier for sharers and sharers alike.

Find your purpose

Determining the best way to share your photos requires some serious thought about what you think your readers will want to do with them [and what you want them to be able to do]. There are many Web sites that allow you to upload photos and display them in slideshows or albums. Most of them also offer printing services, so for example, Grandma can decide which pictures she likes and order prints sent to her directly, or even get one printed on a coffee mug for the office. Before you upload, check out the options on several sites, as they can be quite different and some will be better

served for your purposes than others.

In some cases [London Drugs and Future Shop are examples], you don't need a digital camera to take advantage of online photo sharing — many film developers will upload developed pictures to their Web sites, which also serve as drop-off points for digital photographers who want professional prints. Prints can usually be picked up at a local retail location, sometimes within the same day. Of course, the processors hope you'll email the link to all your friends and family — the more printing, the merrier. Some of these sites have time limits, so if you decide to use this option, make sure your network knows how long they have to place their orders.

If your pictures are already digital, you have more options, and online picture archiving sites, such as Pictorial or PhotoSphere, may be more to your liking. Some of these offer a certain amount of storage for free, with the option of paying for more space. Some will allow a trial period before the subscription kicks in. In any case, they need to make money somehow, so they often also offer printing services through partner companies, and there will likely be advertising on the site and on your photo page. Also, check the information and software that come with your digital camera or scanner — some manufacturers offer online storage and sharing options built-in. Some of these, like Sony's ImageStation, are not limited to owners of the particular camera brands.

One other thing you might want to consider is the level of access and privacy. You may not want your family album viewed by anyone who stum-



lies across it, so whatever service you decide to use, check the privacy options. Some require a password or access code for viewing that you would supply to those you were sharing your photos with. Others only allow access through links sent in email, preventing strangers from snooping in.

Most image hosting sites offer tutorials to show users how to upload photos, and some even offer their own software packages to make uploading smoother.

A site of your own

If you simply want a place to display your photos, you might already have one. Many Internet service providers include enough space for a personal Web site as part of their subscriptions, and with the right software, you can post photos online for viewing without having to write the site code yourself.

Quick Web Albums, from LAJ Design (www.lajdesign.com), is available for Windows and Macintosh (OS X and 9.2) computers and offers a way of creating simple photo albums and publishing them on the Web. With properly prepared pictures (see sidebar for prep tips), it's possible to set up an album in about half an hour. The company offers a 45-day trial of the software for free from its Web site, after which it costs US\$23 to purchase. I used the Windows version.

Pictures can be imported into the album individually or in batches if you have all the images in one or more folders (hint, hint). Then it's simply a matter of writing the picture descriptions (writing trees will vary depending on your creativity level), and choosing options such as watermark, fonts, background colors, and the size of the thumbnail photos in the index page. Once it's ready, you select a folder to send it to and click Create. What

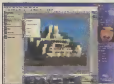


Photo: iStockphoto.com

you end up with is a folder with the thumbnails, a folder with the original images, an index.html page that displays the thumbnails, and an HTML page for each image to display the larger version. Transfer all of these to your Web space using an FTP program (see sidebar), and you have a photo album online — just email the link to all your friends and they can surf in like any other Website.

If you want to tell a story along with your photos, you might want to consider a Weblog, also called a blog. Blogging software and services often allow pictures to be added to entries, though they may limit this privilege to certain subscription levels if you're posting to their servers and not hosting your own site. One of the advantages of a blog is that it can be interactive, as you get feedback on your postings.

One final note: Don't depend on online storage as the only storage for your photos. The terms of agreement for photo sites invariably state that the user is responsible for backup copies of photos. Store go down and companies go out of business too regularly to take chances with photos, which are almost always irreplaceable and lost.

By Sharlene Myers

Excuse me? FTP?

File Transfer Protocol (FTP) is a way of uploading and downloading files to and from computers on the Internet. It's easier to transfer files via FTP with an extra trouble as possible: you'll need a software program called an FTP client. There are many of these available from software Web sites such as Lycos (www.lycos.com) and Download.com (www.download.com), and quite a few are offered as inexpensive shareware or freeware programs. Many of them operate much like your Windows folders — once you locate the files you need and their destination online, you can simply drag-and-drop or select them and click Upload.

In order to access your Web space, the FTP client software will ask for your username and password. If you've never accessed your space before and you don't have your username and password, your Web hosting company should be able to provide them for you.

Easy does it

Those who subscribe to online services such as AOL, Comcast, MSN, and Mac already have what they need to sit on photos online: image editing software and templates for creating online slide shows, e-mail greeting cards, MIDI videos, Mac e-mail "services," or users must have Internet access via an ISP AOL.

Some services are an ISP or a service package can be purchased separately. The monthly fee for these only one — which include some conditions of online storage, email Web hosting, text messaging, and different content — ranges from \$13 to \$14. All offer free periods to new subscribers.

Photosharing options

Service	Web site	Free storage	Paid storage	Templates	Editing tools	Privacy options	Print ordering
Black's Photography	www.blackphotocolor.com	Yes*	Yes	Yes	Yes	Yes	Yes
Fotoblog	www.fotoblog.co.uk	Yes*	N/A	Yes	Yes	Yes	Yes
Location Image	www.locationimage.com	Yes*	Yes	Yes	Yes	Yes	Yes
ImageStation	www.imagestation.com	Yes	N/A	Yes	Yes	Yes	Yes
Olala	www.olala.com	Yes	N/A	Yes	Yes	Yes	Yes
Pictacore	www.pictacore.com	Yes*	Yes	Yes	No	Yes	Yes
Web-Ment	www.webmentphotocolors.co.uk	Yes*	Yes	Yes	Yes	Yes	Yes
Yahoo	photos.yahoo.com	Yes*	N/A	Yes	Yes	Yes	Yes
Image24	www.image24.com	No	Yes	Yes	No	Yes	Yes

* Limits on download water without of free storage. See Web sites for details.

** Privacy is a Weblog service, but includes photo albums in premium accounts.

Coming this fall

Pentax says its pentaxone will be introducing its own DSLR, the iSD, in the coming weeks. According to Pentax, it's the E-1 megapixel model will be lighter and more compact (3.10 x 3.10 x 3.10) and then its own DSLR, the iSD, will use Pentax's own lens.

Olympus (www.olympus.com) took a radically different approach with its E-1. It's a 5-megapixel digital SLR, but rather than having it on a 35mm camera, Olympus picked a new format, called four thirds. The company developed a set of five lenses as well as a telephoto lens and an external flash and, specifically for the E-1 camera.

Advantage Nikon: 12-18 mm f/4.5 zoom lens to digital SLR

As mentioned in the main story of this digital SLR with a sensor as wide as a film frame, it's hard to find an adjustment factor to 35mm lenses to get the equivalent field of view of a digital. That helps telephoto lenses but penalizes wide angle. To address this, Nikon introduced an ultra wide angle zoom just for digital SLRs. Its 12-18 mm range translates into a very respectable 18-27 mm equivalent on a digital body. For now, it gives Nikon the best wide-angle performance of the dSLR market.

Nikon has announced a similar message with a new DA lens series. The first in this series is the DA Zoom 16-45mm, which is the equivalent to 24-65 mm in 35 mm terms. No date is given for availability.

Other things you can buy for \$3,000

- A latte every day for 3 years
- 50 inch wide screen TV
- 1990 Cadillac in fair shape
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The High End: Stuff you want to need

For serious shooting, get a digital single lens reflex camera

Two years ago, I bought a Canon PowerShot S2 digital camera. It's been great, but a single-lens reflex it's not. Now, after spending two months with digital SLRs, I can't go back. I won't.

Why would anyone spend \$2,500 to \$3,000 on a camera? I'd make my arguments around one word: performance. Performance means no discernable shutter lag, seeing what the camera sees, lens selection limited only by your finances, lots of accessories.

These are some of the reasons why the single lens reflex design itself has persisted for more than half a century. They apply equally well to digital SLRs. If you have the technical skill and the artistic sense, you'll be able to use a dSLR without much relearning. A lot is the same. But of course, instead of

film, dSLRs capture images with an electronic image sensor, so there are important differences too.

For example, you no longer decide what film to use because with digital, one image sensor fits all: black and white, color, fast, slow, indoor, outdoor. Sounds good, but you also need to make sure you like the way the camera renders colors and tones from the get go because there'll be no developing sessions later.

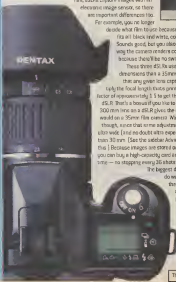
These three dSLRs use image sensors that have smaller dimensions than a 35mm film frame so the field of view that any given lens captures is smaller. You need to multiply the focal length listed on the lens by an adjustment factor of approximately 1.5 to get the equivalent focal length on a dSLR. That's a bonus if you live or shoot with a telephoto, because a 300 mm lens on a dSLR gives the same field of view that a 450 mm would on a 35mm film camera. Wide-angle performance sucks, though, since that same adjustment factor applied to your 20 mm ultra wide (and no doubt ultra expensive) lens renders it to a pedestrian 30 mm. [See the sidebar Advantage Nikon for one solution to this.] Because images are stored on memory cards rather than film, you can buy a high-capacity card and shoot hundreds of images at a time — no stopping every 36 shots to change rolls.

The biggest difference, though, is in what you do with the images once you've taken them. Working with a digital image is as much a computer process as a photographic one and on the whole it is utterly different than working in a chemical darkroom. To my mind it's a transition worth making, and that's all the more true now that I've used a dSLR.

By David Taraska



Nikon 12-18 mm f/4.5 sample



The iSD, Pentax's dSLR

The not so high end:

Affordable digital camera options

HP Photosmart 435 and 435i

Estimated price: \$585/499 (435); \$555/479 (435i)

These models differ in resolution and lenses. 3:1 effective megapixels and 5X optical zoom for the 435 and 2 megapixels and 3X optical and 4X digital zoom for the 435i. Both feature instant Share for setting up an email hot while the camera is streaming the process of sending pictures and are compatible with HP's Photosmart 6000 dock (\$1600) which connects to the TV as well as a PC.

Not ready to cash in your child's college fund to get into digital photography? No worries. Here are a few new high-quality digital cameras that won't clean out your pocketbook.

Sony Cyber-shot: DSC-H50

Estimated price: \$500/\$399

Sony's 2-megapixel Cyber-shot H has a rotating lens that allows for self-portraits. Also notable are flash metering and adjustable flash levels. And, last but not least: if you're tired of black and silver, it comes in metallic orange.

Canon PowerShot A80

Suggested list price: \$750

As reflected in its price, this 4-megapixel camera with 2X optical zoom offers a few more fancy features: the Intelligent Orientation Sensor (automatically rotates vertical shots) and support for PrintBridge (direct printing from camera to compatible printers via USB).

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A keyboard keyboard

ProDikeys: a cool tool for budding musicians

Emagic is the domain of the pros

The recent release of Emagic's Logic Audio Platinum II marks a significant step forward in computer-based recording. Designed for the professional recording engineer or musician, this program has great power and features (and a price to go with them: \$500). Although it's still a handful for someone with no home recording experience, this version of Logic has a Setup Assistant that takes you through the program. A revised Arrange window, new video features, a computer resource manager that makes playback smoother, and a host of audio-editing cool enhancements make this the program to have if you are a serious recording musician. Visit the full review at www.hiwire.com/news/longest.

Keyboards and computers

If you have a electronic keyboard manufactured in the last 20 years, chances are it has MIDI. MIDI stands for Musical Instrument Digital Interface, which lets keyboards and other electronic musical instruments talk with each other. Using a special soundcard built into Creative Labs Audio 2 Platinum that has MIDI ports built into it, or external MIDI cables like MIDI Cable Puck from Voyetra, for example, that connect to your computer soundcard's game port, any MIDI-equipped keyboard will work with a PC. Once the keyboard is connected to your PC, you have an amazing amount of power. The PC has General MIDI and gives you 128 standard preset sounds plus a whole bunch of personalized sounds. Once a MIDI track is recorded, it can be edited to remove mistakes or to just change the sound.

This is perhaps the coolest thing that has happened to the ubiquitous computer keyboard in a long time. There have been other stunning innovations — carvy, split, adjustable, colorful! — but combining one with a piano keyboard has never been done... until now.

The folks at Creative, the makers of Sound Blaster sound cards and the Nomad jukebox, have conceived a piano keyboard with a computer keyboard — an elegant marriage that works.

The computer keyboard is a standard PC keyboard with everything exactly where it should be. There's an opaque plastic cover over the piano keys that serves as a wrist rest. It's a very comfortable keyboard to use. But the main point of the ProDikeys is the piano keyboard. It consists of 37 "mini" keys that make up a keyboard with a three-octave range. The keys have a plastic feel to them but seem solid. The keyboard has a Pitch Bend wheel and a Volume wheel on the handle on the upper left side of the unit.

There are strip holders that accommodate a regular guitar strap. With this in place, you can walk around playing music or writing a report — the PS/2 connector cord is about 3 m (9 ft.) long, allowing you to wander a bit. (Warning: the ProDikeys made me feel a bit like that geeky Herold from *The Red Green Show*, so I keep it on my desk.)

After installing the ProDikeys software and attaching the keyboard to your PC, launching the music software is just a matter of hitting the large Run button located near the Pitch Bend and Volume wheels. Once launched, you can start playing in one of four modes: Impress, Easy Play, Learn, or Perform.

The Impress mode lets you create music without knowing much about music. The Easy Play mode lets you play music with lots of help from the com-

puter. Learn mode teaches you how to play different songs. Perform mode gives you more control over what you play.

The ProDikeys is fun to use. The software has a great interface that is easy to use and non-threatening. You can record everything you play by just clicking the record button.

There is not much wrong with this combination keyboard and software package. The one thing I did find wanting was the volume wheel, which controls the general volume of everything being played. I would have preferred that it only control the volume of what's played on the keyboard, with a separate control for the accompaniment. You can adjust the balance between the keyboard and accompaniment in the software, but not on the fly.

The ProDikeys and its software make a great tool for beginning musicians, and one that you won't outgrow quickly. I tested it with several entry-level and high-end music recording software packages, and they all read the MIDI information generated by the ProDikeys keyboard.

At a retail price of about \$340, the ProDikeys is a bargain.

By Herold Gula

InfoBox

ProDikeys

Creative (www.creative.com)

Retail price: \$339.99

Requires a PC with 233 MHz or higher processor running Windows [95/98/Me/2000/XP], 64 MB RAM [32 MB recommended], 325 MB free hard-disk space, a sound card [Sound Blaster sound card included], CD-ROM drive, speakers or headphones, and an Internet connection for downloading additional features.



ProDikeys: a surefire two-in-one keyboard



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WiFi for free

Road warriors and workaholics who regularly use wireless Internet hotspots have increasingly paid dearly for the convenience. Canadian company Wireless Friendly now provides friendly and says: given that WiFi capabilities cost less than \$50 per hour to operate once the initial setup expenses have been paid, charging up to \$9 per hour for access is paying of the world.

The company has the idea that consumers can still get into their drivers to go online without driving their bank accounts using the company's free HotSpotz access points at select establishments.

The catch? Before going online, users have to watch one minute of advertisements streamed from a local server for every hour of wireless access. While the company has plans to expand nationwide, for now only select Toronto coffee shops currently house HotSpotz access points. The benefits of free WiFi access, according to the company, are four-fold: users don't have to pay for access, local businesses get customers with some extra cash to spend since they're saving on connection fees, local advertisers get a very targeted and captive audience, and Wireless Friendly makes money from advertisements in the process. **Hot spot locations:**
www.wirelessfriendly.com/see.html
www.hotspotz.net/service/
www.wi-fipoint.com/

Factoid:

A predominant theory is that the Big Mac, McDonald's signature triple-decker sandwich was named after Maurice Mac, McDonald. He and his brother Dick opened the first McDonald's in 1957 before it was taken national by Ray Kroc, naming the sandwich after Mac as opposed to his brother who was probably a smart business move.

Would you like WiFries with that?

Wireless access in coffee shops, hotels, transportation hubs, and blinking areas where road warriors congregate seems natural, but how will wireless access in fast food restaurants fare?

The concept of having access to the Internet everywhere you go isn't exactly new, but it has certainly started to get the attention of the hospitality industry.

The Canadian arm of McDonald's, for example, is running a test in two of its restaurants, both of which are in the greater Toronto area, offering wireless Internet access over WiFi (wireless fidelity) to customers who ask for it and who spend a minimum of \$3 in the restaurant. Diners need a laptop or handheld computer with this wireless technology built in or added in the form of a WiFi card.

McDonald's hopes to have 30 Canadian WiFi restaurants in its test run by the end of the year, with more in the Toronto area, as well as in Vancouver and Montreal.

It's a safe bet that technology is reaching mass acceptance when this fast food mogul is offering it to customers. Though you have to wonder if consumers, no matter how tech-savvy they may be, are ready to accept the idea of a wind (or wireless, more accurately) fast food establishment. McDonald's has tried its share of technology gimmicks to attract busy business people with varying degrees of success. Most recently, it tried



to make cell phone owners by offering cell-in service where users could phone in an order and pick it up at a designated time. Never mind the fact that McDonald's already built its legacy by drastically cutting down the time consumers wait for hot food, and a frustrating bout of button pushing trying to navigate a touch tone menu just isn't worth the extra minute or two that phoning in an order "saves."

Let's compare and contrast accessing the Internet wirelessly in a fast food restaurant versus a more established WiFi hotspot like a coffee shop.

By Andrew Moore-Otisola

Coffee shop	Advantage	Fast food
Get a cup of coffee while surfing	Coffee shop	Get three cups of coffee while using the Internet, one cup doesn't cost the \$3 minimum
Pay upwards of \$5/hour to use your credit card for the privilege of using the establishment's WiFi hotspot	McDonald's	Buy \$3 worth of McDonald's products and get 45 minutes of Internet access
Sit on a comfy coffee shop cushion or couch while computer parked on your lap while checking email	Coffee shop	Sit on a mass produced straight-backed chair, shifting weight from left to right, hunch to avoid legs falling asleep while checking email
Try to explain to hosts that you were working in the coffee shop for the entire afternoon, not just sitting there killing time	Even	Spend your lunch hour wondering despite the fact that the boss is nowhere to be seen and won't recognize the distraction
Leave the coffee shop hungry, dehydrated and hyperactive because you did nothing but drink coffee all afternoon	Coffee shop	Leave the restaurant after 45 minutes with various condiments, crumbs and burger drippings in between the keyboard keys and greasy fingerprints on the screen

Home life under a microscope

Philips' HomeLab studies the technologies we may be living with tomorrow

The door knew — just by reading a few signs — that the day had been tough for both of them. As it verified their identities with the eye scanner, the door used the "bad day" algorithms to adjust the house's temperature, humidity, and lighting, and select the just-the-right music to greet them.

A piece of bad science fiction? Perhaps, but it's also an idea for a home of the near future. And the idea doesn't stop with sensor-laden doors, but includes electronic technologies that a microscope and then serve the needs of occupants all through the house. That's what "ambient intelligence" is all about, according to Philips Research representative, Ellen de Wree, recently visiting Canada from The Netherlands. There, Philips has been operating its HomeLab since April 2002.

HomeLab is the crucible for ambient intelligence, an on-again looking two-bedroom house equipped with 34 hidden cameras and two-way mirrors where scientists of many disciplines monitor and vary people interacting with technology prototypes. Subjects have stayed in HomeLab from a few hours to several days.

"In the future we think we will have technology in our houses that is not visible," says de Wree. Technology unseen is one of the key features of ambient intelligence. Today a home has obvious signs of technology, such as big-screen TV sets



and computers, but in a home with ambient intelligence, all of this would be embedded and for the most part, invisible.

A case in point: video displays, whether as TV sets or PC monitors, won't be big boxes taking up space or even thin boxes hanging on walls. De Wree talks about paintable displays: photoactive materials that could be applied to wall surfaces like paint, and then electrically charged to display video or computer signals.

Closer to reality, in June Philips announced the first commercial product to come out of HomeLab research, the Mirror TV. It is a specially polarized mirror with a 17-, 23-, or 30-inch LCD flat-panel display behind it. The polarized surface allows the display's video signal to be seen through the mirror, but when the display is off the entire surface looks like just a mirror.

According to Iain Burns, president of Philips Electronics Ltd. in Canada, the first target for the Mirror TV will be commercial settings like hotel rooms where space is limited. The Mirror TV could serve several functions: TV set, movie screen, computer monitor, interactive touch-screen panel for self-service, and, of course, mirror. And, says Burns, prices are competitive with the plasma displays that some upscale hotels are looking at. Eventually, the Mirror TV could be an integral part of a home imbued with ambient intelligence. In a bathroom, it could sense who was standing in front of it and display appropriate information: health related status, individual daily schedule, to-do lists, and the like. One application tested in the HomeLab was an embedded camera whose aim was to show children how to brush their teeth and to make sure they brushed long enough.

By David Taraska

Top 5 hates about consumer electronics

According to a Philips survey of 1,000 U.S. consumers, the five things about consumer electronics that bug people the most:

Too many remote controls with too many features	18%
Uply wires and cables	22%
Having to set clocks after a power outage	16%
Complicated user manuals	18%
Figuring out how to set up new equipment	9%

Query by humming

If you don't know the name of a song, but can hum a few bars, a home with ambient intelligence will be able to find it for you. The HomeLab is working on a storage system that will find songs in your CD or MP3 collection by pattern-matching what you hum to it. It would also respond to voice commands. For example, you could simply sing a song.



A game in the hand

Addictive handheld games for Palm OS and Pocket PCs

Gaming on a handheld unit can be just as addictive as playing on a desktop machine. And there are plenty of options for both Palm OS and Pocket PC devices.

Don't believe it? Check out these great games:

Dejeweled for Palm OS and Pocket PC is a highly addictive jewel-matching game. Tap adjacent pairs of gems to swap them and try to make matching horizontal and/or vertical lines of three or more. www.astraware.com US\$14.95

Invasions of the Earth with Evil UFOs for Palm OS. Fly your UFO over cities to destroy them, but watch out for missiles and don't crash into buildings! Featuring five episodes of five levels each, this is one game I had to play until I finished every level. www.mad-doggles.com US\$2.95

Like solitaire? You get 20 card games in one package with **King Sol** for Pocket PC. Never be bored again. www.mpsnetech.com

US\$19.95

How about strategy games with real-time battles? **Medieval Heroes** for Palm OS is a turn-based strategy game, featuring three levels of difficulty, five players (you, plus four computer players), real-time field combat, four types of combat units, and high-resolution support. Well worth the US\$15. www.medievalheroes.com

With excellent Japanese animated graphics, **MetaStrike** is a high-end action/shooting game for Pocket PC. Get into your tank and destroy your enemy! www.greatsoft.com US\$14.95

Space arcade gaming at its finest, **3D Star Fighter Pilot** for both Palm OS and Pocket PC features a very fast real-time 3D graphics engine with advanced opponent AI that adapts to your playing style. It features 31 levels with 21 different types of enemy fighters. www.3dgames.com US\$14.50

An original concept, maintain your aquarium

while defending against alien **Insectaquarium** for Palm OS or Pocket PC combines an action-adventure game with strategy and a strange sense of humor. www.astraware.com US\$14.95

By Kevin Linfield



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The wonderful world of world music

If you love discovering new music there are five places for you to go. Commercial radio, which used to showcase new and interesting acts, is now very mundane. If they are not playing the hits of yesterday, they are playing music designed to be mainstream and sponsored by politicians. Most shows on television can be equally bad. The only place to go to find new, exciting, and potentially offbeat music is the Internet.

But where do you start?

The Internet Underground Music Archive (www.iuarchive.com) is undoubtedly the best place to begin. Founded in 1993, this site acts like a central meeting place where musical acts meet, and listeners can converge. For musicians, IMA is great. Bands and solo acts can get ratings for free. They get a personal Web address and page where they can include a list of links to the band's MP3s for download, sell CDs and other merchandise, have message boards, fan letters, and email contact. There is also opportunity to link to external Web pages if desired.

For the listener it is pure heaven. Thousands of bands, each with loads of MP3s to listen to. You can search by genre or by country. A simple search looking for English Canadian rock bands generated a list of more than 1,200. And there are no mistakes at IMA. Fans all over the world. This is even an IMA rule: make sure that stream music to you. All this for the wonderful price of legal and free.



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5) Special Case (Form for Customer)	\$19.99
6) Special Case (Form for Customer)	\$19.99
7) Special Case (Form for Customer)	\$19.99
8) Special Case (Form for Customer)	\$19.99

Price List (V) - Page 102

Item	Price
1) Computer Case, CD-ROM	\$19.99
2) Video Adapter, Hard Drive, Mouse, Keyboard, Video Card	\$19.99
3) CPU Monitor	\$19.99
4) System + Power	\$19.99
5) Special Case (Form for Customer)	\$19.99
6) Special Case (Form for Customer)	\$19.99
7) Special Case (Form for Customer)	\$19.99
8) Special Case (Form for Customer)	\$19.99

Price List (V) - Page 102

Item	Price
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2) Video Adapter, Hard Drive, Mouse, Keyboard, Video Card	\$19.99
3) CPU Monitor	\$19.99
4) System + Power	\$19.99
5) Special Case (Form for Customer)	\$19.99
6) Special Case (Form for Customer)	\$19.99
7) Special Case (Form for Customer)	\$19.99
8) Special Case (Form for Customer)	\$19.99

Price List (V) - Page 102

Item	Price
1) Computer Case, CD-ROM	\$19.99
2) Video Adapter, Hard Drive, Mouse, Keyboard, Video Card	\$19.99
3) CPU Monitor	\$19.99
4) System + Power	\$19.99
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- Wireless capability 80A/WIFI 802.11b



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A 530

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Submit up to 3 original digital videos, along with the form below, by February 23rd, 2004. Anything goes, but keep it clean. All videos must be burnt to a DVD, and must be no more than 5 mins in length. Winners will be announced in the March 2004 issue. **Must be in QuickTime or Windows Media Player format.** All elements of the video must be original and not infringing on any copyrights.

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PRIZES

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WINNING VIDEOS will be featured on CTV's WebMania

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HUB's digital video contest Entry Form, available February 23rd, 2004

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Title of Video: _____
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4x DVD-R 100/110 100/110 \$44	4x DVD-R 100/110 100/110 \$44	4x DVD-R 100/110 100/110 \$44	4x DVD-R 100/110 100/110 \$44	4x DVD-R 100/110 100/110 \$44	4x DVD-R 100/110 100/110 \$44	4x DVD-R 100/110 100/110 \$44

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Getting personal

Online dating site sees boom in Canadians seeking mates

There was a time when online dating was regarded as a dangerous fringe activity, reserved only for social freaks who couldn't meet people the "normal" way—offline. That stigma is evaporating, though. In fact, in many circles online dating is considered trendy. As Canadians become more comfortable with the Internet, they are becoming increasingly comfortable meeting people online.

Online personals, or dating services, are popping up everywhere, and Canadians are making good use of them. Yahoo! Canada recently launched Yahoo! Personals, an online community of mostly single adults looking for romance.

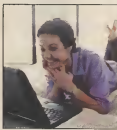
[Online dating] is very popular right now in Canada. There are actually over 74 million unique users in Canada looking for love online. That represents about 44 percent of the total online population in Canada," says Isabelle Renaud, who heads the company's marketing and communications.

"It's so popular because it is a great alternative to regular dating. Many people don't feel comfortable in don't really like meeting people in bars or at gyms or in coffee shops, and that allows you to do it from the comfort of your home. Men like the fact that it's open 24/7 and women like the fact that you can control the communication and it's pressure-free," Renaud says.

"Between November 2002 and May 2003, the number of unique users of Yahoo! Canada personals grew by 52 percent—it's a huge trend, not only on Yahoo! but in the online world in Canada."

The company's personals service allows users to upload pictures of themselves with a short description, as well as voice and video clips. An updated search function allows users to look for potential matches by postal code, city, province, or by qualities such as physical features, alcohol consumption, and smoking habits.

"Any Canadian can meet an American because our database is North America. There are millions of



people on Yahoo! Personals in North America," says Renaud.

The service has integrated technologies, so people using the personals section can instant Message (IM) or email each other for a month's fee. It also boasts testimonials from people who met using the service and are now married, living together, or engaged.

Renaud says safety concerns are the primary reasons some single Canadians are not making use of online personals.

"When you have a relationship online, it is actually very secure because you are controlling the amount of information you give out."

The site includes a section that offers tips on safe dating, as well as an option to report any abuse to Yahoo! and to police.

By Jessica Malone



Meet markets

Some other online dating sites that include Canadian listings let allow users to create a profile and use basic services for free, charging a fee for additional features, and include heterosexual and same-sex listings.

Comet.com

In addition to the site (the membership for all of the ComWest newspapers are run by ComWest Media). Unlike many other sites, you don't need the writers first. You have to do a night in by filling out a personal profile and agreeing to terms of a service agreement.

Match.com

In addition to personals, this site has genre-specific advice articles, such as "Can you change him?" (for women) and "Trade beach esquorts" (for men). Some other sites (such as MSN.com) have a branded version of Match.com.

MSN.ca

In Canada, Microsoft's online dating partner is LiveLife 360 U.S. counterpart uses Match.com. In addition to a potential mate, you can search for a roommate using the site.

Spring Street Networks

If you're looking for a like-minded partner, why not seek something you like, say an online magazine, your starting point? That appears to be the logic behind Spring Street Networks, which hosts many publication-branded dating sites, including those of Salon.com, Esquire, JANE Magazine, and News.com. The problem? Though you enter through different subdomains, they all access the same listings.

By Megan Johnston

Safety first: tips for online dating

- Create an email address through a free service like iGmail or Yahoo! specifically for online dating. That way you can eliminate it easily if needed.
- If you decide to meet in person, tell a few close friends or family members where you're going and what time you expect to be home.
- Make arrangements to meet in a public place.
- Arrange your own transportation.
- Bring a cell phone.
- Never give out personal identifying information like a phone number or address online.
- Report any inappropriate or abusive behaviour to the company whose services you are using, as well as to police.

I want my MP3

A handful of portable audio options and accessories

Music and memory

WeMo Marvel WMP-318+
www.pse-power.com
Estimated price: \$183

The versatility of the USB memory key-style MP3 player was proven when Creative released the original MuVs, but several other companies have released similar products. WeMo's Marvel MP3 player, for example, also doubles as a 128 MB memory key, and you can easily drag 'N' drop your audio files straight onto the key using a compatible operating system (Windows 98 and up and a USB-compatible Mac). Its not as slick as the MuVs, a bit bulkier, with a clunkier interface. One annoyance is that it needs to be powered on to work as a memory key. Still, the sound is good, it comes with an external FM headset, and also features a USB extension cable so you don't have to fish around behind the PC every time you want to hook it up. The LCD handles both English and Chinese characters, and it has a microphone along one side so you can record voice memos using the free memory on the key. It's powered by a single AAA battery.



If you love music but don't want to be tied to your home stereo, it's hard to beat the new digital audio products. For a long time, people carted around portable cassette or CD players, which can be bulky.

Thankfully, the new digital media players can store a lot of music in a very tiny form factor. In addition to portable CD players that also play MP3 format music, there are two other types available: those using use flash memory and those that come with a hard drive inside.

Flash-based players use the same memory technology you find in digital cameras, and like those cameras, sometimes the memory is built in and sometimes it's removable, in the form of memory card. These players tend to come with 64 and 256 MB of memory, which can hold between one and eight hours of music, depending on your encoding. Flash-based players tend to be much more compact, making them a good choice for active people.

Players using hard drives can store far more music: a player with a 30 GB hard drive may hold between 200 and 700 hours of music (again depending on your encoding). Because they include a notebook-sized hard drive, these players are bulkier than flash-based players, but you do get to carry most of your music collection with you, everywhere you go. This month we look at one of each type of player. In the upcoming months, we'll be looking at plenty more!

iPod 30GB
Apple (www.apple.ca)
Estimated price: \$340

The iPod has been the techiest item for digital music fans ever since it was introduced, and the new versions are unlikely to change that. The top



of-the-line iPod has a 30 GB hard drive (which can hold roughly 7,500 songs), but still maintains an ultra-slim shirt-pocket design. The player is compatible with both Mac and Windows right out of the box, and while it comes with a FireWire docking cradle that connects it to your computer, a USB 2.0 cradle is also available (sold separately for about \$60). This version and the 15 GB version (\$300) each come with a carrying case and wood remote. The 10 GB version (\$150) skips these items, and doesn't come with the dock. The user interface is still the most elegant out there, thanks to the scroll wheel. I found the operating system a bit buggy, needing more frequent resets, especially after being in the dock for longer periods; the problem went away after upgrading the iPod's firmware, though. Despite the price premium, it's easily the best of the hard-drive-based models currently available.

Other recent hard-drive players:
Archos RM Recorder 20 (www.archos.com)
Creative Nomad Zen (www.creativeworld.com)
RCA Lyra Jubilee R32821 (www.lyrazone.com)



Normad MuVo X2
Creative
[www.normadworld.com]
Estimated price: \$230
Creative's previous version of the Normad MuVo

was one of the finest digital audio players out there, rising up to 320 MB of digital audio onto a USB key that turned into a digital audio player when inserted into the car's stereo pack. The new MuVo X2 not only adds an LCD window—so you can finally see what song is playing—but it also adds voice recording capabilities (up to eight hours). It uses one standard AA battery, which offers up to four hours of runtime. The MuVo X2 has 128 MB of memory, and a 256 MB version will ship later this year (for \$300). One really nice thing about the MuVo X2 bundle is the inclusion of a second battery pack, so you have your choice of options, as well as a beltclip that can hook into the included sports armband.

Other flash-based portables:
iOS MP110
[www.jenofive.com]
Nike PSA-L210max
[www.nike-philips.com]
ReiSPORT 5355
[www.reiaudio.com]
Samsung Yupp YP-55V
[www.samsung.ca]

By Sean Connolly



On The Move

Accessorize your portable

A number of iPod accessories are available directly from Apple (check them out on Apple's Mobile site), and other manufacturers offer accessories for their MP3 players, but that doesn't mean you're limited to "iPod" products. Below are some interesting add-ons from "iPodding" makers.

iPod-specific

Backup Battery Pack

Belkin [www.belkin.com], US\$70
Though the battery on the iPod is designed to last up to 11 hours, sometimes that's just not enough. This battery pack—which attaches to an iPod with suction cups and connects to the firewire interface on the bottom of the new iPod models—uses four AA batteries to boost playtime when the main battery is running low. It comes with an on/off switch, so you can choose when to switch over to battery backup, and features LED indicator lights to show just how much power you have left in the battery pack (only when you press a button, though, to save power). It means that doubling the physical size of your iPod though (from about 1.7 cm to 5 cm), but if it's all tucked away in a knapsack, you'll never notice.

iRip

Griffin [www.griffintechnology.com], US\$35
If you don't want to mess around with a cassette adapter to play the music on your iPod over your car's sound system, the second-generation iRip allows you to broadcast directly to its FM radio. The new iRip hooks into the two-prong head-phones/remote interface found on the latest iPods as before, the iRip gives its power right from the iPod, but this one gives you far more choice as to which channel you can broadcast on, offering over 100 different choices via the menu on the iPod itself. Even if the iRip isn't compatible with other portable audio players, it works very well with the iPod.

Suitable for many players

Belkin RunCast Mobile FM Transmitter

www.belkin.com, US\$40
Listening to your MP3 player in the car has generally required a special connection or your car stereo or a wired cassette adapter. There are now a few products that allow you to use a very short range FM transmitter with your portable audio

player, so you can simply listen to your music on the car's radio. The RunCast plugs into the headphones jack of any portable player, and broadcasts on four different frequencies between 88.1 and 88.7 MHz. It's not the most portable transmitter, but since it can be used with any portable—even iPod or cassette players—it's a nice device to have around. It requires two AAA batteries.

Creative i-Trippe L3500

[www.creative.com/peakers], \$230
A lot of us like to carry our portable audio players everywhere, especially on the long bus or subway ride to work. If you have the luxury of playing music in your office once you get there, a small speaker set is a great add-on, especially if you have a hard drive-based player with an extensive library. Creative's new i-Trippe is a small, sleek 2.1 speaker set (two speakers, one subwoofer) with a twist: It comes with a wired volume pod, which features a headphone jack, line-in jack, and a special USB port (known as the M-Port) for connecting directly to compatible digital audio players (Creative's MuVo X2, for example).



Dynasonic SR-6 Isolator Earphones

[www.enymetic.com], \$199
Anyone who has purchased a portable audio player or knows that, in most cases, the headphones stink. If you're in the mood for a new set of headphones for your player, you may be tempted to grab a \$30 special. But if you have a few extra dollars and want something exceptional, take a look at Dynastatic SR-6 Isolator earphones. They are designed to fit right in the ear canal like a set of earplugs (no surprise, as Enymetic also makes professional ear protection products). You have a choice of silicone or foam tips, both of which are included in the package. It can be a bit disconcerting at first, but with a proper seal, external noise is reduced by up to 15 dB and, giving your battery sound at a much lower volume, which helps prevent ear damage. The wires connecting to the player are pretty strong, so you'll want to take care when using them. Once you've mastered the art of properly inserting the isolators, you'll love the sound quality.

By Sean Connolly

No clubs required

Don't stand to think of the coming winter and the end of golf season? It's not quite like the real thing and won't improve your swing, but with a little imagination the greens on a computer screen can make the months pass more easily.

Palmplay 3D Golf & Hole Designer

www.palmplay.com
Problems with your slice? The hole designer lets you design your own holes — including fairways, rough, greens, bunkers, streams, lakes, trees, and forests — on your Palm OS-based device 3.5 or higher-end handheld. Then you can play them or 10 preset holes with the 3D golf simulator. Once you're set up your perfect course, you can beam it to your friends and challenge them to beat you on your own turf. Try that in the real world.

Tiger Woods PGA Tour 2004

www.ea.com/games/tiger-woods/2004

Electronic Arts has a solid reputation for its sports division and previous versions of Tiger Woods PGA Tour have been well received. The 2004 edition is slated for release in September for the PC, Xbox, Nintendo GameCube, and PlayStation 2 and features what EA calls the EA Sports Game Play, which the company says allows players to customize the appearance of their player right down to hairstyle and tattoos.

By Sherilee Myers

Technology rescues the duffer

Golf-training system uses virtual-reality modelling

It's been more than 20 years since I last golfed and, against my better judgement, I recently accepted an invitation to play a round with some executives of a high-tech company. Despite my hectic, grassy weeds of "it's OK, we don't score higher than double-par" it was utter humiliation. Prior to the drinking, I had received a media kit on the Virtually Perfect Golf Learning System and in a matter of a weekend, the package was transformed from just another press kit to a possible savior for my pain.

As the name implies, the system uses virtual reality. Central to it is a computerized wire frame model of a figure that performs a "perfect" golf swing. According to Tony Jackson, chief operating officer of Toronto-based Virtually Perfect Golf Inc. (www.virtuallyperfectgolf.com), that model is well-known Canadian golfer and golf instructor, the late Ben Kass. He was fitted with sensors and filmed as he swung a golf club. The resulting imaging was converted into a computerized model and further developed to demonstrate ideal form.

The definition of ideal is based on an approach to swing analysis developed by golfing legends Ben Hogan and George Knudson.

The second part of the system is the virtual reality glasses students wear as part of the training. During the session, trainers are videotaped, and by donning the virtual reality glasses they see the videotape superimposed on their video image. The imagery is flipped so it looks like a mirror image to the student. The wire frame is adjusted to conform with a variety of body shapes and heights.

During each stage of a lesson — say one focusing on backswing — the model slowly performs the relevant portion of the swing, and students try to mirror it by adjusting the position of their torso, shoulders, arms, hips, legs, the club, etc., to match. This is done in real time, so students can see exactly how the various portions of their bodies are conforming to or deviating from the perfect swing as they perform the motion. This provides instant and continuous feedback, at least that's



the theory. Does it work? Virtually Perfect offered to take me through one session and let me come to my own conclusions. The \$99 one-hour lesson package includes instruction from a PGA pro plus time on the virtual reality system (available separately).

My impressions were that both aspects were useful, but for different reasons. The instruction from the pro was the most immediately valuable for a person at my skill level. When I picked up the game decades ago, I didn't take lessons. Friends showed me the basics but not the fine points, so improvement was hit or miss, mostly miss. But within five minutes in front of the pro, he corrected three or four fundamental aspects of my technique. The next time I went to the driving range, my performance was much crisper, but I felt I had a clearer idea of specific mechanical points. And the four times I got it right, I drove the ball farther and straighter than before.

The benefit of the virtual reality system is that it overcomes some of the limitations of verbal and written instruction. With the VR system, rather than trying to follow sometimes confusing directions, you merely adjust your body to conform to the template. That in itself is not a trivial task, but the immediate and constant visual feedback is a genuine aid. Plus it's non-verbal, which instructs a different part of your brain. I was quite pleased with how quickly I learned to match my movements to the wire frame.

The VR feedback plus instructor's comments proved to be a powerful combination, but none of this will provide an instant fix. You still need to create muscle memory to see benefits on a real golf course — and for that, there's no substitute for practice, practice, practice.

Virtually Perfect Golf Inc. presently operates a training centre at its headquarters in Toronto, but the technology has also been unveiled in London, Ont., Montreal, Que., and Niagara Falls, N.Y. Earlier this year, the company announced plans to franchise the system.

By David Tanaka



Wireless 101

Every time you turn around these days, it seems someone is clanging the word "wireless" at you. It's like it's supposed to mean something.

Since the word has several meanings, following is a quick guide to the various worlds of wireless.

Cellular wireless

When you hear the word "wireless" on its own, it's probably being used to refer to cellular phone technology—especially the ability of these new devices to send and receive data (email, text messages, and even Web surfing) in addition to making voice calls.

It doesn't matter whether you're using an actual cell phone or a cellular modem, because both can send and receive data (going to view data [Web pages or longer email messages] can be less than ideal on a tiny telephone screen, though).

Most Canadian cellular networks have been upgraded recently to "high speed," which means they can move more data faster. But high-speed, in this case, realistically means about 56 kilobits per second, roughly the same speed as the fastest dial-up connections using a telephone. There's talk of broadband connections over cellular, but it's not here quite yet.

There are two major types of high-speed cellular wireless in North America:

CDMA 1x

The Code Division Multiple Access standard is more popular in North America than in the rest of the world, but here the networks are pretty prevalent; the 1x refers to the upgraded high-speed capable data network. These phones come with built-in identification information, which means changing your number is a bit more complicated.

Both Bell and Telus use the CDMA 1x network.

GPRS

General Packet Radio Service is more popular worldwide—especially in Asia and Europe—but it's worth noting that North American GPRS devices often use different radio frequencies and are often only partially compatible with other GPRS networks around the world.

GPRS devices use a user-replaceable SIM card for identification. Activation of a phone is typically as simple as changing SIM cards, which makes changing your number extremely easy, and it allows you to share one cell phone account among several different devices. Both Rogers and Bell use a GPRS network.



A PC can play a handheld phone apart to make voice calls and send wireless email wirelessly using CDMA (like the Telus contribution) or GPRS networks.

Wireless networking (aka WiFi)

Popularly known as WiFi, wireless networking has had a lot of attention lately, thanks to the proliferation of "hotspots" popping up in urban areas.

WiFi networking is starting to appear as standard gear in many new notebooks (especially those using Intel's new Centrino technology) and handhelds. But even if it's not built in, adding WiFi to an computer is as easy as installing a USB, PC Card, or internal WiFi adapter. Handhelds can add WiFi using CompactFlash or SecureDigital adapters.

The catch to use WiFi, you will need a base station hooked into your office or home network, or you'll have to find a "hotspot" that is a public space with a WiFi base station.

Wireless networking comes in a few varieties as well.

802.11b

The string of numbers and letters refers to a specification approved by the IEEE (Institute of Electrical and Electronics Engineers). In this case, the specification is networking (802) wirelessly (11), version b.

It was the first of the wireless networking standards to gain a foothold in office and home environments, and is virtually synonymous with "WiFi" in most people's minds.

It can transfer data at up to 11 megabits per second (22 Mbps using a revised version of the standard). While many devices claim ranges up to 400 m from the base station, it's more realistic to expect ranges of 90 m or less (much less if you're working in an environment with a lot of walls).

802.11g

The 11g standard is picking up steam, and for good reason: it offers a much better speed of 54 Mbps, but is also backward-compatible with 11b, so you don't have to replace 11b equipment. Keep in mind, though, that in a connection between 11b and 11g devices, you're limited to the slower 11b transfer rate. The range is about the same, 90 m.

802.11a

Released after 11b became popular, 11a is the forgotten child of the wireless networking. It sports a speed of 54 Mbps and bumps the radio frequency up from the crowded 2.4 GHz spectrum (which both 11b and 11g use) to 5 GHz. This, theoretically, eliminating interference from other devices. Unfortunately, the higher frequency means the radio waves have a much harder time getting through solid objects—like walls—meaning that 11a has a much shorter range than the other two. Consequently, 11a is mostly found in corporate environments.



A PC adapter lets a wireless card (like the one from Linksys) communicate on the network, and laptops possess wireless capability within range of a wireless hub.

Personal video recorder options

Personal video recorders (PVRs) record a television signal onto a hard disk rather than to tape, so with a VCR, they let you pause, rewind, fast forward, and easily record a television signal. Here are a few options available today. For more detailed look, see our full guide at www.hubzonet.com/pvr/.

Bell ExpressVu 5800

A satellite decoder and a PVR, it records up to 33 hours of programming and costs \$599.99. It is only available to Bell ExpressVu subscribers (monthly subscription fees start at \$22).

ACA Revolution 3857000

It costs \$799.99, but has a built-in DVD player and works with both satellite and cable signals.

HP Media Center

A computer for the living room, this \$2,395 unit will work like a PVR and serve as a digital entertainment hub.

Sony VRC

Similar to HP's PC, but run Sony's Digi Product software. It works with both satellite and cable signals, and has a list price of \$2,099.99. It's \$100 more available until Sept. 15!

ATI TV-Wonder

This video card converts your computer into a PVR, and digital production workstation — and for only \$119. *

ATI All-in-Wonder cards

The series of powerful video cards for your computer has built-in TV tuners. They range in price from \$189 to \$699. *

* Installation is required. If you are not adept at tinkering around inside your PC, you may want to have it professionally installed.

Me and my PVR

I can't watch regular television anymore. I have been spoiled. After nearly two years of using a personal video recorder (PVR), I need the control it gives me. Now, when I watch television without a PVR, I get frustrated by not being able to pause the action, rewind, and — under the right conditions — fast forward or jump over commercials. And it isn't just me, my wife is exhibiting these symptoms too.

The time-shifting device in question is the Model 5800 Satellite decoder/PVR from Bell ExpressVu. It is currently the only satellite-visible TV capable to offer a PVR in Canada, although other options are available (see sidebar). The 5800 is an early model and has been replaced by the 5800, which has twice the recording capacity and more features.

For nearly two years I have been able to scroll through three days of programming and record what I want with two clicks of a button on the remote. I have been able to pause whatever I'm watching to answer the phone, get a drink, or whatever. I have been able to see sports replays before the TV producers can get them up on the air. I can take those replays, pause them, then advance them frame by frame (how's that for armchair athletics?).

If I set things up correctly — again with one or two clicks on the remote — I can start to watch a program late, but from the beginning, and by skip ping the commercials have the show end at the regular time.

The PVR experience does have a few flaws: you can't, for example, record two shows at the same time. With the Bell ExpressVu PVR, specifically, you can't watch one show while recording another; the remote has a non-adjustable aperture for batteries (four AAAs at a time); you can't get a digital signal

out of the PVR, so archiving is still limited to the ubiquitous VCR; and some programming doesn't respect the start and stop at the stroke of the hour principle, so you have to manually enter the start and stop times, just like on a VCR.

Though it doesn't exactly revolutionize the way you watch TV, the PVR does enhance the experience. Besides being a fun way to watch TV, it is practical, allowing you to skip commercials or see them again if they're particularly good. With very few players in the field and limited options, the technology is still fairly expensive. Within the next couple of years, however, expect to see more set-top boxes from other manufacturers and at greatly reduced prices.

By Nester Gule

Where is my HDTV?

Several persistent problems hinder the acceptance of HDTV — out of 51 million Canadian households with televisions, less than 200,000 are HDTV-ready. Although there is more programming now than there was a year ago, it still doesn't amount to much. TSN is only now starting to broadcast HDTV sports, including the U.S. Open tennis tournament and some CFL football games. An HDTV decoder will set you back about \$600, an HDTV television costs several thousand dollars, and satellite and cable subscribers pay a premium for HDTV channels. With the high costs and lack of programming, it's no wonder many consumers have adopted a wait-and-see attitude.



Command & control: PVRs allow users to take a vacation break when they want to.

Who's Ben Q and why is he in my living room?

For the longest time, plasma displays were only found in business settings thanks to their exorbitant cost. Now that there's been a steep decline in the price of plasma screens, it's becoming more common to see them in the living room. It's no real surprise that people want a plasma display as the centerpiece of their home theatre setup: the screens are extremely thin compared to tube or projection televisions, they can be mounted onto the wall, and they are very bright. What's more, they're very versatile, with connections for all the standard video sources (S-Video, composites, and components) as well as connectors for computer video outputs.

BenQ PDP-48W1 plasma display
www.benq.com

Estimated price: US\$4,000

When it comes to the large plasma screens, most of them seem to settle on sizes of 42 or 50 inches diagonally. The 46-inch PDP-48W1 splits the difference while maintaining

the 16:9 widescreen ratio, meaning it's still a great choice for watching movies. The screen has a resolution of 652x480 pixels, so it's not quite up to the High Definition TV specification, though it can certainly translate HDTV signals to fit the screen.

The picture quality on the PDP-48W1 is very good, with a very bright display, good colour reproduction, and a fantastic on-screen menu system. When you turn it on, it automatically hunts for a signal coming from any of the video inputs, but you also have the option of overruling this and selecting one manually. There are options in the menu system for adjusting the ratio of the picture (from the 16:9 widescreen ratio to the standard TV ratio of 4:3, for example), as well as selecting the type of input signal (MISC, PAL, or SECAM, see sidebar). And although there aren't any speakers built into the display itself, audio inputs and speaker terminals are included, with 3D Audio WOW surround processing capabilities included.

The most welcome feature here is the pricing: after years of seeing plasma screens hovering between \$10,000 and \$20,000, the more affordable ones are certainly welcome. At US\$4,000, this one is more likely to be closer to \$6,000, if not lower, making it cheaper than most to put a plasma screen into your living room.

By Sean Connolly



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The ultra-slim DVD-FR5 has a five-disc carousel and plays several formats: DVD Video, DVD Audio, DVD Video RAM, standard CD audio, MP3 CDs, and discs with Windows Media file or JPEG image. It has internal audio outputs for all six channels of 5.1 surround, as well as a separate two-channel audio output and optical SPDIF out. It can connect to your display using composite video, S-Video, or 480i/480p component video output. Both the audio and picture are very good. Its on-offendable way to add high-definition audio to your home theatre. The single-disc DVD-FR5 is \$380.

Sony SC9HA777ES
(www.sony.ca),
\$4,500

At this price, the SACD player isn't for everyone, but audiophiles will like it a lot. Its a single-disc model, featuring multiple-channel output for hooking to the receiver in your 5.1 system, no further decoding required. It also has standard stereo output for old over-ear headphones, as well as optical and coaxial SPDIF outputs. You can choose stereo or multi-channel output and even select which layer of an SACD to play if you are using a hybrid disc. Its one warning: this means it weighs in at 20 kg, so don't place it onto a glass shelf! The sound of course is amazing. One complaint: it switches between two- and multi-channel output depending on the mode, so you may not always hear audio out either the receiver or player is set to the proper settings.

Two high-definition audio formats begin battle

The CD has become so pervasive it's easy to forget it was once regarded with suspicion. We already have LPs and cassettes, some resigned, and now we have another new format?

And it seems the powers that be are at it again, introducing not one but two new digital audio formats. The circus among us will see this as another way to get us to buy more audio equipment and purchase our favourite albums, yet again. However, both new formats address one of the big problems with the original CD technology: it wasn't close enough to an analogue signal to satisfy many audiophiles.

With all digital audio formats, sound is represented by ones and zeros. With enough zeros and ones per second, you get a very good approximation of an analogue waveform. However, even though digital audio players feature digital-to-analogue converters, audiophiles argue that the resulting signal is too coarse, causing "listening fatigue." This is considered an issue especially with very high-frequency or low-frequency sounds, or very low-volume sounds, which can be distorted by lower digital sampling rates. To combat these problems, a higher-definition format was necessary.

Enter DVD Audio and Super Audio CD.

These competing formats are both designed to increase the definition of digital audio as playback is closer to analogue. The standard CD features a sampling rate of 44.1 kHz and 16 bits. DVD Audio bumps that up to 192 kHz and 24 bits. Super Audio

CD (SACD) is a bit more interesting because it employs Direct Stream Digital, which uses 1 bit processing but a 2.8224-MHz sampling rate, which works out to about seven times the definition of standard CD.

In addition to the higher-quality sound, there are other benefits while being converted for this new format; many of the discs have also been remixed for S-1 surround sound, as well as the standard two-channel version, and the discs themselves can have back information — track lists and composers, for example — right on them so you don't need the case to figure out what song is playing.

Which format is for you?

Both formats have been around for some time in limited ways. It's only recently, though, that disc and player manufacturers have started to push them into the mainstream. Unfortunately, with both being hyped at the same time, it means another format war, and confusion all around.

It's probably worth getting through one of the way first. If your home entertainment system doesn't have an excellent receiver/amplifier and speaker combination, you may not notice any difference between these new formats and your trusty old CDs. And, if you always have to listen to your music at low volume, there's little incentive to upgrade.

But if you have good quality equipment (and a surround sound receiver; as both formats are compatible with S-1 digital surround), it's time to figure out which format will work best for you.

DVD Audio may be the most natural fit for most, for several reasons. Many people already have a home theatre setup that includes a good receiver and speakers. Since DVD Audio players also double as DVD Video players, this format will fit into an existing home theatre setup nicely. The players handle movies, DVD Audio, and standard CDs. Even better, many DVD players that handle DVD Video and DVD Audio are only marginally more expensive than similarly featured players that are only DVD Video compatible.

Those who are very picky about sound reproduction may lean toward SACD because of its Direct Stream Digital capabilities. As with other audiophile-focused technology, many dedicated SACD players are very expensive (at this point, several thousand dollars). Also, the players can weigh a lot. The Sony model we looked at weighed 20 kg. If you're not a dedicated audiophile but want to step up to the next level, you may not even have to



Continued on page 29

How many people are banking online?

53 percent of Canadians with an Internet connection (73 percent of all adults) have done at least one online banking transaction.
—Spice Real Corp.

17 percent of Americans have used online banking... and it will grow to about 34 percent (annually) to 2007, when 30 percent of Americans (about all Americans not just adults or 67 million people will be online).
—Gartner Group.

Our online usage has grown by approximately 20 percent in the past year alone.
—Pam Garrow, VeriSign Credit Union.

There are currently 2.3 million online customers in Royal Bank alone.
—Tim Wells, RBC Financial Group.

Our guide: Based on the information above, and data from Statistics Canada, eight to 10 million Canadians have performed an online banking function.

Digital dollars

Online banking in Canada hits its stride

It's become an old saw in technology that when it comes to the effects of innovation, we typically overestimate the short term and then promptly underestimate the long term.

The overestimation phase

In the mid-90s, when online banking was in its infancy, pundits forecast the end of tellers, if not the actual bank branches themselves. Think of the savings. The banks got excited. With online banking augmenting the evolving telephone banking offerings and the proliferation of ATMs, it seemed we were on the edge of a Jetsons world.

Today, Canadian financial institutions downplay the "death of bricks and mortar" angle.

According to Pierre Burns, the manager of direct services for the VeriSign Credit Union, the late '90s saw the move of customer services from the physical branches to online and automated options.

"But now," says Burns, "the pendulum has swung back dramatically as institutions realize the importance of the branch and for customer-centric institutions to be as channel neutral as possible." Translate: it doesn't matter if you use the ATM, the phone, the Net, or want to walk in and paw awhile, you should get the same great service.

The underestimation phase

Millions of Canadians now sit down at a computer and pig bills or check their bank balances each week, but the tellers are still at the branch offices and telephone banking is still popular. This is the underestimation phase: banking is changing fundamentally, but it's like watching your hair grow—tough to see. There are small developments that presage a continued move from brick-centric to customer-centric services that will, in the long term, make the old paper-based banking seem quaint, slow, and bland.

Continued on page 29

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Wired for wireless

Anyone with a videogame system will attest to the patchwork of wires that connect the console to the rest of the world: video, audio, and cables that go with it. Online console gaming potentially adds one more tangle of wires to the mix, namely an Ethernet cable running from a broadband router located in a home office or similar, to the back of the console.

Recently, a number of main streamers have jumped on the online console gaming bandwagon, releasing adapters that can connect wirelessly to an existing Wi-Fi home network.

Linksys' new Range extender released its Wireless-B Game Adapter for either the Xbox or PS2 and CanDyne's new CanDyne.com has recently unveiled PS2 and Xbox wireless adapters.

In both cases, basic setup was pretty simple: using a Microsoft Wi-Fi router, the CanDyne adapters needed only to be plugged in, connected, and given a few minutes to work while the Linksys adapter required a few buttons pressed to select a channel and a switch flipped telling it whether the connection was straight through or a crossover. Both adapters require that users run a connection utility on the PC to find and connect with the wireless router.

While the IEEE 11b wireless standard used by both adapters is slower than a direct Ethernet cable connection, it presented no problems or longer than usual lag in online game play.



Online gaming moves to bigger small screen

New options move gamers from desktop to TV

In the early days of video games, the console that turn TVs into game systems shipped with a euphemistically labeled "expansion port." This filled gamers' heads with visions of potential add-ons that would expand the functionality of their chosen console, but nothing ever seemed to materialize, at least not in North America.

Thankfully, for gamers with a penchant for online play, the days of the little-used expansion ports faded with the introduction of online adapters. It started with the new deluxe Sega Dreamcast (www.sega.com), which started to ship with a built-up modem as standard equipment in 1999.

Projections for wide acceptance of online console gaming stretch as far into the future as 2005, when, according to Jupiter Media Matrix, revenues could reach \$250 million. To date, online console gaming has yet to grow much as anything other than a digital money pit for manufacturers and developers. Despite this, they forge on. Here's what they've been up to lately.

Xbox: Microsoft is, arguably, leading the charge toward the connected console living room, promising that Microsoft games released from 2003 onward will have some form of Xbox Live capability: downloadable levels, online stats keeping and score reporting, or actual online play.

Connecting gamers online makes up a large part of Microsoft's plans for Xbox (www.xbox.com/us). At a press briefing in May, chief Xbox officer Robbin Redd said "Xbox is ready to inspire this industry to expand by connecting people with more games, more community, and more varieties of entertainment, more of the time." He also unveiled plans for XBL, the Xbox Sports Network where all Xbox's own sports games will allow gamers to play each other, organize tournaments and leagues, make player trades, and report stats and more online.

Xbox Live is the only online initiative that requires gamers to pay a monthly fee. While one year of service is included in the price of the Xbox Live Starter Kit (\$69.99), subsequent years cost \$79.99 each.

PS2: Sony is pushing toward offering online games without a monthly charge, but in doing so leaves the door open for developers to charge their own fees. The first PS2 (www.sony.com) game to charge a monthly fee was EverQuest Online Adventures, the console incarnation of the hugely popular PC online role-playing game.

At a Sony press briefing, the company unveiled some of its upcoming online titles, including an exclusively deal with Electronic Arts, the top console video game publisher, which is rumored for its sports titles. Under this deal, only those using the PS2 console will be able to play EA sports titles online, leaving GameCube and Xbox players out of the loop.

Other online games in the works include SOCOM US Navy SEALs 2, which has built the largest community of any online console game.

GameCube: Despite its competitors' plans, Nintendo (www.nintendo.com) is still testing the



online console gaming waters. "We just haven't seen [the viability] yet," said Lesley Short, communications manager for Nintendo GameCube, "but, if a developer comes to us saying they want to create an online game for the GameCube, we'll work with them."

As it stands, there is currently only one online title for the GameCube, Sega's *Phantasy Star Online* Volume 1&2. Essentially, gamers looking for an online experience won't find much on the GameCube, as Nintendo is focusing on other forms of connectivity, like the Game Boy Advance GameCube compatibility.

By Andrew Moore-Crispin

PC game reviewers	F1 Challenge '98-'02	Iron 2.0
Flight Simulator 2004: A Century of Flight Celebrating 100 years of flight, this Microsoft simulator lets you fly the Wright Flyer, other historic aircraft, 747s, and Learjets.	Electronic Arts has said this is its best Formula 1 race simulator in a good one, featuring drivers, cars, teams and circuits from four years of wheel-to-wheel racing.	Twenty years after the movie comes the sequel in a game. Visually stunning — a great twist on a story-driven adventure game. Read the full game review: www.hardcore.com/games

continued from page 26
The next revolution
 choose sides. Because both formats use the same size and laser form factor as the standard CD or DVD Video, and because both use a DVD-style media (when it comes to reading it with the laser, that is) the formats are more compatible than you'd think.

No, you can't play DVD Audio discs on an SACD player, and you can't play the SACD layer of a Super Audio CD on your DVD Audio player, but you can buy players that will decode both formats. As we go to press, Sony, Philips, and Pioneer are releasing dual-format players. Even better, these players are nowhere near as expensive as audiophile-level SACD stand-alone players — granted, the audio-decoding quality isn't at the same level either, but for the less discerning listener, it's a great choice.

By Sean Carruthers

Digital Dollars continued from page 27

Today
 Today with one online institution or another you can find the following services:

Cheque imaging: Cheque items listed on your online transaction record are links. Clicking the link shows you a scanned image of the cheque. Click back to see the back side of the cheque and who endorsed it.

Electronic statements: The paper-based statement that arrives in the mail is old news. Some institutions are saving the price of paper and postage with online statements.

Credit card balance: Why call a 1-800 number and go through all those menu choices when most banks and credit unions allow you to check your card activity online? [You must use a card authorized by the institution, of course.]

Email alerts: Some banks and credit unions allow you to alert up your online account to email your computer or cell phone when your balance falls below a certain figure or when an expected deposit is made.

Credit check: This service allows you to check your credit history on your institution's site. Particularly important to guard against identity theft.

Cell phone banking. It's available, but not ready for prime time, according to banks we talked to.

The future

Have you noticed the disappearance of paper? When was the last time you used a stamp to pay a bill? What about filling out a deposit slip? Heck, what about paper money?


Many people are paid by their employers via direct deposit. We spend using debit cards like go online to pay bills that we may receive electronically. We look at the balances of our accounts, credit cards, and even IRSPs online and move money when needed. At the end of the year we do our taxes on the computer, file, then wait for our refunds, which are also deposited electronically.

If old banking looks quaint now, in the future we'll be amazed that there was a day back in the first decade of the 21st century, long before biometrics made its big splash in banking, when the movement of money was all based on passwords and plastic cards. Amazing.

By Bob Lindman

For more information on High Definition Audio, and what the music labels are up to, go to: www.hellomusic.com/audio/highdef/

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Andy Walker

Definitions

USB 2.0: A wired data-transfer technology that can move 25 MB/s songs between a computer and a gadget in less than a second.

MPEG: A common type of movie file format. There are two common types: MPEG-2 and the newer MPEG-4 format.

MVI: A Microsoft movie file format.

MPEG: A near-CD-quality audio file used to store music.

JPEG: A picture and movie data file that uses compression so that the file size is small.

LCD: Liquid crystal display. This is the kind of screen you have on a laptop.

OLED: Organic Light-Emitting Diode. A new ultra-thin, low-powered screen technology due out in 2004 in mobile gadgets.

Rough cuts

Portable video players suffer first-generation glitches

Take your video, your pictures, and your audio files with you and play them in the bus on a device the size of a can of sodas. Yeah, here comes the mobile multimedia player.

Don't get too swoony about them though, because they're raw, expensive, and still rare in Canada. The marketing nerds here in the U.S. have been making a stink about them all year, but so far I've been unimpressed.

These little devices — made by companies like Panasonic, Samsung, SmartDisk, and Archos — are handheld video and audio players that have onboard hard disks. Some also have data card readers, so they can store and play large multimedia files: like movies, songs, and picture slideshows.

I spent some time with an early product in this category, the SmartDisk FlashFox. It's not available in Canada yet, but that's actually a good thing. The device is about half the size of a paperback book and has a 3.5-inch screen that flips open to reveal VCR-like controls. To get data onto the 3D GB device you can attach a USB 2.0 cable and drag and drop files from your computer's desktop.

I successfully displayed pictures from a digital camera on the device. I wasn't so lucky with video. I tried to play two common video types: MVI and MPEG. They wouldn't play. A closer inspection of the tiny tag on the box says this:

FlashFox only supports the obscure 'Motion JPEG' format.

Then again, perhaps I don't really care. The colour LCD screen on this device is snappy. It sort of looks like the video image you get when you can't quite tune in your TV — kind of snowy.

Ultimately, the only use for this device is perhaps for showing your grandma your kiddie-pool pictures from your digital camcorder and only if she has her glasses handy. MPEG files played fine, but again in this



is only worthwhile if you have a pair of head phones or a decent set of speakers to plug it into. The onboard speaker has all the fading of those public announcements on the local transit system. In short, this product, at USD499, is a disaster.

Now that doesn't mean future versions won't improve or that competing products aren't better. Perhaps they are, but I doubt you'll be thrilled by these devices just yet. High-quality video screens on mobile devices are power hungry and the technology is just not there yet to offer good video, great battery life, and, most importantly, an affordable price.

One company that appears to be getting good marks in this category is Archos. It has a line of video-capable gadgets called the Video V300 series. The Sony Walkman-sized gadget has a built-in 3.5-inch colour display and hard drive. A series of accessories is available that can turn it into a digital video recorder so you can slurp video from a TV. The US\$599 device — which isn't available yet in Canada — also has an optional camera attachment. The device also has an FM tuner and recorder necessary.

It sounds like a winner. Then again so did the FlashFox when I first heard about it. The reality is that these are first-generation devices, and they are going to have first-generation problems. But as sensors get better — and they will especially with the forthcoming OLED technology — you're going to be able to put a multimedia power house in the palm of your hand.

For now, put your money there and clench it shut.

Andy Walker is a Canadian journalist based in California.



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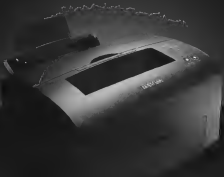
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